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VALUING A STOCK LIFE INSURANCE COMPANY

The first complete and authoritative study of this important subject ever published

By
WILLIAM BREIBY, F.A.S.

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VALUING A STOCK LIFE INSURANCE COMPANY

By WILLIAM BREIBY

CHAPTER I

THE PROBLEM

HAVING had considerable experience in the examinations and analyses of life insurance companies for the past twenty years or more, I have often had occasion to dispute the contention, or impression, that any standard value would apply to all companies. It seems to be quite generally believed that $20 or $25 per $1,000 of insurance would indicate the value of any company and that in addition there might be a value in the agency plant amounting to hundreds of thousands or millions of dollars.

To demonstrate the impracticability of applying any standard figure, and to determine reliable values so far as revealable by the data of the annual statements, I began about a year ago the analysis of the successive annual statements of more than 200 stock life insurance companies. For this purpose I used copies of the 1928 annual statements, similar to those filed with the several Insurance Departments, and for the five years prior to 1928, the statement figures as published in THE SPECTATOR Year Books, supplemented by those given in "Best's Life Insurance Reports."

The business of a stock life insurance company, has, of course, some analogy with that of any other corporation operated for profit. There are, however, some distinct dissimilarities, the most prominent of which, possibly, is that accounts (i.e. the insurance) obtained at some considerable expense, will produce profit for many years in the future, without further investment of money and with comparatively little further effort on the part of the agency force which originated the business.

The continuous growth and profits of a properly conducted life insurance company are almost inevitable. Even in times of general business depression a well managed life company will continue to earn surplus; in fact, probably more proportionately, because somewhat less new business is then likely to be written with consequent less drain on surplus. The inherent capacity for a life insurance company to recover from adversity, such as the influenza epidemic of 1918-1919, or even poor management, is remarkable.

A well conducted stock life insurance company is an excellent type of investment trust, effectively supervised by the State; with investments confined by law to those which are recognized as the most select, and with the added advantage of profits from the insurance business.

The value of any business depends upon the potential profits, and the life insurance business is no exception. The earnings of a stock life insurance company are from two sources; the invested capital stock and other stockholders' funds, and the insurance operations. Even if a life insurance company were to stop producing new business, those earnings would continue: on the capital and other stockholders' funds so long as invested; on the insurance in force for many years in the future, until it will have "worked off" the books.

Purchases

Purchases in connection with ownership of stock life insurance companies are of two general kinds:

1. Purchase of the insurance on the books of the company.

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2. Purchase of the stock (either control or individual shares).

In a purchase of the insurance on the books of the company, we need only consider the earning capacity of that business and the probable length of time that business will continue to earn profit, which, of course, involves the rates at which the business will probably go off the books, or inversely, the rates at which that business will persist.

In the purchase of the stock, whether it be 100 per cent of the capital stock, or sufficient for control, or individual shares, the purchase might be considered as made up of two parts; purchase of

1. The assets covering, or securing, the capital stock, surplus and other stockholders' funds, and

2. The going insurance concern.

Determining Value of Assets

Determination of the value of the assets securing the capital stock, surplus and other stockholders' funds would be similar to that of determining the value of the assets of any other financial institution, and is comparatively simple. In the results presented herewith, I assume, in effect, that the assets were all reported at current market values, or at maximum values allowable by the State supervising officials.

The value of the going insurance concern would be measured by the net profit on the insurance operations and the probable rate of increase in the profit-producing insurance.

In settling upon the value of any business, or stock, it is quite the usual practice to consider it as worth a certain multiple of the current earnings. We are all quite familiar with the expression "that stock is selling for 12 or 15 times the yearly earnings." Though the buyer might not specifically fix a definite ratio, the amount he is prepared to pay is increased or decreased according to his ideas of the probable increase or decrease in the earning rate. In any purchase, the price is influenced by the judgment, or hope, of the buyer.

Past Experience as a Basis

In any line of business, values are largely influenced by past experience, with some regard for apparent indications of change. In the life insurance business, past experience is a fairly reliable basis for estimating the future increase in earnings, a condition which does not apply as truly to other lines of business. Thus, in setting values in the life insurance business, we can appraise the future with somewhat more assurance, and need not be confined to present rate of earning and base our multiple of earnings on mere hope or guess.

Valuing the Agency Plant

There is no particular merit in trying to arrive at a value of the Agency Plant, as such, because that is involved in the value of the going concern. The Agency Plan cannot be considered apart from the whole. It cannot be taken bodily from one company and set to function as effectively in another. It is not like the furniture or files. It is subject to disintegration upon severance from its "native soil." Much of its value lies in the executive directing its activites. If, for academic reasons, a value of the agency (and underwriting) plant is wanted, apart from the value of the whole going concern, it might be found by subtracting the value of the business already on the books from the value of the going concern, because the value of the agency plant must lie in its ability to increase the volume of profit-producing business.

Though, in determining upon the price to pay for all, or a large part, of the business of a particular life company it would be desirable to analyze separately the various classes of business, such as the ordinary, industrial, group, term, annuity, etc., such detailed analysis was not possible with only the data of the annual statements before me, nor was it necessary, for the purpose was to determine the earnings of the combined business of the

company, rather than of a particular part or section of the business. Though changes in the relative volumes of the various classes of business would likely have some effect on the rate of future earnings, future changes in the character of the business cannot be measured, except in so far as the past experience indicates a trend, or definite plans have been put into effect. As a matter of fact, a life insurance business shows remarkably regular results over a period of years. Changes in the character of the business are sometimes not reflected in the earning rates until several years have passed, because of the long-term character of most of the insurance contracts. Probability of radical changes in future operations cannot be considered, unless there are some indications to that effect. The seller cannot expect a price predicated upon future operations being improvements over those which he has pursued in the past. The buyer's offer, however, might be influenced by ideas of how he can improve earnings by effecting changes.

Yearly Cost and Profit

With the exception of the few companies doing a peculiar business, such as exclusively, or mainly, One Year Term insurance, or which are in effect "subsidized" by other organizations, business is written, or placed, at a considerable cost over and above the premium collected for the first year's insurance. This cost, as related to the increase in the profit-producing business must be considered in determining the value of the going concern.

In my analysis, I sought the yearly rate of profit produced by the business on the books, the probable change in the earning rate, the yearly rate of increase in such profit-producing business and the cost of producing that increase. In the accompanying schedule I present the resulting functions as follows:

1. Average Yearly Earnings per $1,000 of Renewed Insurance (i.e.) insurance more than one year in force.

2. Yearly Persistency Rate of Renewed Insurance.

3. Values per $1,000 of Renewed Insurance, on bases of 5, 7, 10 and 15 years' future earnings (decreasing as business goes off).

4. First Year's Cost, in excess of the first year's premiums collected, per $1,000 of New Insurance Issued.

5. Cost per $1,000 Increase in Renewed Insurance.

6. Probable, or Assumed, yearly rate of increase in profit-producing Renewed Insurance.

7. Yearly Net Profit per $1,000 of Renewed Insurance.

8. Value of Going Insurance Concern, per $1,000 of present Renewed Insurance, i.e., value of an increasing profit-producing business, on the basis of 7, 10 and 15 years' future net profits.

9. Value of Stock per $1 par value, as of Dec. 31, 1928, and as of Dec. 31, 1929, on basis of 5 (exceptional), 7, 10, and 15 years' future profits.

10. Ratio, per cent, of Ensuing year's earnings to Dec. 31, 1929, value of stock.

These functions are given for 117 companies doing an ordinary life insurance business, some of which do a group business, and some also an accident and health business. The schedule excludes the companies doing an industrial business, those doing a special class of business, such as reinsurance mainly, or mainly One Year Term insurance, and also excludes the companies which had been in business for less than seven years. It seems to take about seven years for a company to get going. In the first seven years its problem is particularly that of getting an agency plant organized, and few companies less than seven years in operation can earn sufficient surplus on the business already placed on the books to offset the cost of increasing its volume. Incidentally, few of the companies which had been in business less than seven years had more than $10,000,000 insurance in force. Of the 215 companies whose statements I analyzed, the statements of 21 companies were so inadequate, or apparently inaccurate,

and a few palpably dishonest, that no reliable results could be derived therefrom. These, of course, had to be discarded. In a subsequent article, I hope to give the results of the analysis of these other companies, after having completed the analysis of the 1929 statements for all companies included in the present tabulation as well as those excluded therefrom.

Though, from reconcilements I was able to effect, I am satisfied that the figures presented in the accompanying schedule indicate the earning capacities and the values of most of these companies, I believe it inadvisable to supply the names of the companies, because the figures are necessarily predicated upon certain assumptions, and because I wished to avoid all possibility of affecting the interests of anyone. The companies are grouped according to volume of insurance in force, but have been listed in random order so that no particular company can be identified by its position in the schedule.

CHAPTER II

BASIS AND METHOD

Earnings on Renewed Business, i.e., On Insurance More Than One Year in Force.

The aggregate profits on the business more than one year in force were found by addition and subtraction of the various items shown by the successive annual statements, affecting surplus changes: It was taken as equal to:

1. The increase, from one year to the next, of the surplus, including all special or contingent reserve or surplus funds, not designated as reserves or funds belonging to policyholders.

2. Plus any voluntary increases in policy reserves.

3. Minus any contributions of surplus by stockholders or premiums received on issue of new stock. (Or plus any return of surplus previously paid in by stockholders.)

4. Plus any dividend allocations to stockholders.

5. Minus interest earnings on the mean amounts of capital and other stockholders' funds at the rates of interest shown by the gain and loss exhibits as earned on the mean amount of ledger assets.

6. Minus all so-called investment profits (or plus any such losses) i.e., profits or losses on investment other than interest earnings.

7. Plus or minus any loss or gain, respectively, on account of agents' balance items of "assets not admitted."

8. Plus the excess of first year's insurance costs and charges over the first year's premium collected.

9. Plus the cost or charges of any reinsurance of other companies affected.

10. Plus or minus any other losses or gains, respectively, not due to the insurance operations.

Stockholders' Earnings

As we are here concerned with stockholders' earnings and not with those of policyholders, we need only consider the profits over and above the recorded commitments to policyholders under the dividend provisions of any participating policies. With the possible exception of the few companies having charter, or other provisions, limiting the dividends payable on the stock, it is reasonable to assume that all current obligations under any policyholders' participating provisions were completely discharged by current policy dividend allotments, so that all other surplus fund increases were on account of stockholders; there being no need for a stock company to use any of the policyholders' earnings or funds as contingency reserves; the stockholders' capital and surplus supplying the necessary contingency reserves.

For the few companies which include among "admitted" assets considerable excesses of market, over book or ledger, values, the interest earnings of the stockholders' funds may be overstated if computed at the rate of interest shown in the gain and loss exhibit as earned on the mean ledger assets. However, it must be assumed that assets were reported at true market values and therefore could be sold to realize those market values, and the proceeds invested, on behalf of the stockholders, at the rate reported as having been earned on the mean ledger assets.

As to investment profits or losses, it might be contended that the renewed business should also be credited with some part of the so-called investment profits. Such profits (or losses), however, are rather fortuitous in life insurance operations, and the past experience as to such profits (or losses) is no guide for the future, and therefore had to be eliminated from the insurance operations earnings. Incidentally, prospects of future profits (or losses) on assets will be reflected in the market values reported and consequently in the stockholders' surplus funds, which will have their part in determining the values of the stock.

The other items involved would seem to require no explanation or justification, except that of:

Excess of First Year's Insurance Costs and Charges Over the First Year's Premiums Collected.

The costs and charges of putting new business on the books are composed of the following elements.

1. Expenses.
2. First Year's Mortality and other Policy Claims (such as Disability, Accidental Death Benefit, etc.) less reinsurance salvage.
3. Reserve Liability.

Expenses can be divided into two general classes: direct first year's expense and so-called "overhead expense."

The following items were included as direct first year's expense:

1. Commissions on First Year's Premiums.
2. Other Compensation for Obtaining New Business.
3. Agents' balances charged off (less agents' balances recovered).
4. Agency Supervision.
5. Branch Office Expense.
6. Medical Examinations and Inspection of risks.
7. All advertising.
8. Taxes on First Year's Premiums.

The inclusion of items 1, 2, 3, 6 and 8 as first year's expense probably needs no explanation nor justification, even though the benefits from some of those expenditures will extend beyond the first year.

As to Agency Supervision and Branch Office Expense; with the exception of the companies which did business on the branch office or managers' system, all of these expenses were charged as first year's expense, because under the General Agency System they are expenses which would not be incurred were the company not going after new business. A general agent receives as renewal commissions or collection fees, (charged to Renewal Commissions) sufficient to provide him a profit for the collection of those premiums, so that for such companies none of the so-called Branch Office expense could be considered as on account of renewal premiums. In the case of managers' or branch office system companies, I assumed that all Branch Office Expense, less one-half of one per cent of the total renewal premiums, was First Year's Expense. Investigation of several companies in the past indicated that that per cent of renewal premiums would quite generally cover the Branch Office renewal expense of such companies.

As to advertising, it might be contended that advertising should not all be charged to first year's expense, because, theoretically, it also aids in holding the insurance already placed. Nevertheless, if a company were not actively seeking new business, its advertising expense would be nominal.

"Overhead Expense": Under this heading are included the general expenses for operating the company not directly for either first years or renewal business.

From the total of such miscellaneous, or overhead, expense I first deducted ⅛ of 1 per cent of the mean ledger assets as covering the investment expense involved therein. The balance would then be the overhead expense applying to all the business of the company. This balance was allocated on the basis that overhead expense on account of the first year's business was about five times that on the renewal business, giving weight to both numbers of policies and amounts. Though it is quite common in such expense allocations to consider the business in force at the end of the previous year as the renewal business for the year under observation, I derived figures more truly representing the renewal business responsible for incurring the renewal overhead expense. This was done by deducting from the business in force at the end of the previous year the business in its first year which would not enter upon its second year, and "exposing" the balance to renewal expense for only such part of a year as it would run beyond its first policy year. This method produced a ratio somewhat more than five to one when applied to the business issued and the business in force at the end of the previous year.

For companies with group insurance, I assumed in general that the overhead expense for group insurance was one-fifth of that for handling the same volume of ordinary. In order to give some weight to the number of units involved, I divided the amounts of group insurance by the average amounts of ordinary policies and used the resulting figures as the number of units. It was then assumed that the expense would be one-fifth of that for handling a corresponding number and amount of ordinary policies.

Though these assumed relationships of overhead expense as between ordinary and group might not serve satisfactorily for analysis of the ordinary and group business separately, they are sufficiently accurate for an allocation between first year's and renewal on both classes of business combined, to be used as one of several elements of first year's charges.

As previously stated, for the business of 1928, I had available the annual statements of the several companies, from which I could get the various expense items in detail. For years prior to 1928, however, I used the figures as condensed in the Spectator Year Books, supplemented by the data given in Best's Life Insurance Reports, in which I could identify certain direct first year's expenses and allocate them directly. To get the balance of the first year's expenses for years prior to 1928, I assumed that the renewal overhead expense per policy was the same as that developed from the 1928 statement, and that the balance of the overhead expense, less the assumed investment portion, in those earlier years was on account of first year's business, except such as was apparently due to extraordinary causes. Any extraordinary expense in a stock life insurance company is more apt to be on account of first year's business, or on account of stockholders, or on account of investments, than on account of renewal business, and it is reasonable to assume that the renewal overhead expense per policy is fairly constant after a company has been operating for several years.

First Year's Policy Reserve Liability

In any calender year the charge for first year's policy reserves are affected by both the issued of the current year and of the year previous. My procedure was to use a composite mean reserve factor for issues of the current year, still in force at the end of the year, offset by assumed net deferred premiums on account of the current year's issues and by first year's reserves released on account of terminations of policies issued in the previous year, but increased on account of previous year's first-year deferred premiums paid in the current year. In order to determine upon such reserve factor and lacking complete data as to each company, and in order to have some reasonable regard for the effects of the current year's issues and of the

previous year's issues, I made certain assumptions, as follows:

First, Distribution by mode of premium payment.

Annual Premium Business	60%
Semi-Annual Premium Business	18%
Quarter-Annual Premium Business	22%

Second, Distribution according to quarter in which issued.

Issued in First Quarter	25%
Issued in Second Quarter	27%
Issued in Third Quarter	22½%
Issued in Fourth Quarter	25½%

Third, First policy year's lapses.

Mode of Premium Payment	Lapsed at End of: First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Sum
Annual	..	..	..	5.0	5.0
Semi-Annual	..	10	..	3.0	13.0
Quarter-Annual	12.5	6	3	2.5	24.0

(Effecting a First Year Lapse of 10.4% of All Business Issued.)

Fourth, Assumptions as to relative volumes of kinds of policies.

In order to make charges for first year's reserve more nearly corresponding with the particular class of business done by each company, rather than on the rougher assumption of a standard reserve factor for all, I developed reserve factors corresponding with the average first year's premiums collected. As the statement figure of first year's premiums collected included first year's group insurance premiums, if any, I deducted from the amount of first year's premiums collected $10 per $1,000 applied to the mean amount of group insurance issued in the previous and current calendar years, on the assumption that it was issued, on the average, in the middle of the year on the monthly premium basis. The balance of first year's premiums collected was then taken as representing the first year's ordinary premiums collected. The average ordinary premium per $1,000 was then derived on the foregoing assumptions as to issue-distribution and as to first year's lapses, and on the further assumption that the first policy year's mortality cost was from $2.50 to $3.00 per $1,000.

By extensive test I then found what combinations of certain selected forms of policy would produce such average premium. By this test I used One Year and Ten Year Term at age 35, Whole Life at age 40, 20 Payment Life at age 35, 20 Year Endowment at age 30 and miscellaneous limited payment life and endowment at ages 35 and 40. Combined reserve factors, according to each company's reserve standard, were then used, corresponding with the combination of Kinds of Policies reflected by such average ordinary premium collected.

Other Assumptions:

That 70 per cent of the first year's total and permanent disability premiums and of the accidental death benefit premiums would be required for first year's claims and reserves under those benefits.

That 70 per cent of the first year's reinsurance premiums paid would represent first year's claims recoverable under reinsurance and the first year's reinsurance reserve credit.

For the companies with group insurance, that $7.00 per $1,000 of group insurance issued would cover first year's group claims and any reserve liability to set up therefor.

Average Yearly Earning per $1,000 *of Renewed Insurance*

To get each year's renewal earnings or profits per $1,000 insurance, the resulting renewal insurance profits developed as heretofore explained were divided by an amount of insurance representing the renewal business continued as such for a year. This divisor was taken as the amount of insurance in force at the end of the previous year, less one-half of the amount of insurance issued in that previous year (with adjustment for any bulk reinsurance) so as to approximate to the amount of renewal business which would be producing profit for a full year, and to minimize the effects of fluctuations in the proportions of new business issued.

The average yearly earnings per $1,000 of renewed insurance are the arithmetical averages of such yearly profits per $1,000 renewal insurance for the five years 1924 to 1928. For some of the companies, however, where the figures for the earlier years were unreliable, or obviously inconsistent, or where apparently some radical changes

of operation had recently been effected, the average is for less than the five years, reflecting the experience under the most recent methods of operation.

From the foregoing it will be seen that the so-called renewal insurance profits involve the profit, or loss, on any annuity or any accident and health business. In other words, the profits or losses derived were not all directly due to the renewal life insurance. It seems likely, however, that the future effect, or relation, of such other profits or losses to the renewal life business will be as in the past, particularly as in most cases those classes of business are merely adjuncts of the major life insurance business.

Incidentally, several of the companies doing an accident and health business did not show separately the profit or loss therefrom. With few exceptions the resulting profit factors per $1,000 renewal insurance changed only slightly whether the profit or loss from the accident and health and/or from the annuity business were included or not. In a few cases the inclusion of the accident and health business was sufficient to change the renewal profit rate by as much as 10 per cent, but as that effect was fairly constant throughout the period, there was justification for including that element in the renewal insurance profit factor, because the aim was to get a profit factor which could be related to some function in the future which would reproduce results corresponding with those in the past.

It will be seen from the column of average Yearly Earnings per $1,000 of renewed insurance that the size of the company, as measured by the amount of insurance in force, has little, if any, effect upon the rate of renewal profit. On the average, companies with the largest volumes of business seem to show rates somewhat less than companies of somewhat smaller size. Several of the largest companies have a large proportion of group insurance, on which a lower rate of profit is earned than on ordinary insurance. Some of these largest companies also charge lower ordinary premiums with consequently little, or no, profit from any expense element in the premium. Some of the medium and smaller sized companies apparently earn higher rates of interest on investments than some of the largest companies. Though the largest companies are among the oldest, all the smallest companies listed are not the youngest. Some of the companies in the smallest volume groups have been in business for many years.

The renewal profit rates for none of the companies showed any definite tendency during the five year period to increase or decrease as a company became older, and comparison of the earning rates of old and young companies indicated further that the age of the company does not affect the size of the rate. As was to be expected, the rates for some companies showed considerable fluctuation from year to year, reflecting merely "chance fluctuations" in the experience. Of course, the larger companies showed more uniform rates of renewal profits from year to year than the others, their volume apparently being sufficiently great to permit the "law of averages" to operate more effectively.

In the early years of the insurance, the largest element of profit is that on account of mortality and other benefit claims being less than those provided for in the premiums and in the reserves. The maximum mortality and other claim profits per $1,000 of insurance are about $5.00 to $6.00 per $1,000 in the earliest years of the insurance. As time goes on and the average reserves increase, excess interest, i.e., interest earned in excess of that required to maintain reserves, plays a larger part. After a few years the profits on account of excess interest earnings increase faster than the decrease in the profits from mortality and other contingencies insured against.

The approachable maximum (never attainable on the average business in force) of excess interest profits is such percentage of $1,000 as is equal to the excess of the realized interest earning rate over the basic interest rate; thus, if the actual interest earning is 5 per cent and the basic interest rate is 3½

per cent, the excess interest rate, of 1½ per cent, applied to the approachable maximum reserve, $1,000 per $1,000 of insurance, means an approachable maximum interest profit of $15 per $1,000 of insurance. With an excess interest rate of 2 per cent the approachable maximum interest profit would be $20.00 per $1,000 of insurance. Of course, no company can experience such approachable maximum excess interest profit, as the reserve on all the business would never equal the face amount of the insurance. This comparison of the approachable maximum "claim" profit and the approachable maximum interest profit indicate the relative effects of those two elements.

Several companies show a renewal profit rate of between $7.00 and $8.00 per $1,000. Though it seemed inconceivable that any company could maintain an average earning of as much as $7.00 per $1,000, careful analysis of the data available failed to reveal any error, and so the rates are presented as developed. Some of the companies with the lowest renewal profit rates are in effect mutual companies, the low rate resulting because of excluding the profits allocated as dividends to policyholders. In some of the others, the low rates indicate the poor type of insurance, much of it previously taken over from other companies, together with other features of poor management. The range in the rates shows that no standard rate of profit applies, and the assumption thereof as to any particular company is valueless or misleading.

These renewal profit rates are presented as representing the probable profits on renewal business in the future based upon the experience in the years 1924 to 1928, inclusive, with the exceptions heretofore noted.

I wish to emphasize that the factor reflects the profits on the class of business done by each company. In considering a reinsurance or a purchase of the stock, the aggregate profits on the class of business being done by the company must be considered. In the absence of evidence to the contrary, it is reasonable to expect that the company will continue to do that class of business. Any change in policy which might be effected in the future cannot be measured, unless, of course, plans for such changes have been definitely announced or indicated by the operations during the recent past.

Persistency Rate

The volume of business on the books of the company, if not augmented each year by new issues, will, of course, decrease from year to year through all forms of termination, such as lapses, surrenders, deaths, term expiries and endowment maturities. Therefore, if the business on the books of the company be bought, or reinsured, the buyer is purchasing a property of diminishing value, or one which will produce diminishing returns as time goes on. Hence, for arriving at a value therefor, it is necessary to measure the effect of that diminishing element. After study of the experience of certain companies, I derived the persistency rates given in the second column of the tabulation. My study led me to establish 10 per cent as the standard termination rate applying to renewal business. Deviations from this standard termination rate were then determined by finding for each company the relationship, of the ratio of increase in outstanding insurance to the amount of insurance issued, to the corresponding ratio for the companies which I knew to have a termination rate of 10 per cent.

As the renewal business, made up of the insurance remaining in force from all previous years' issues, becomes older, its aggregate rate of termination shows a tendency to increase, e.g., if, of the business on the books today, 10 per cent terminates in the next issuing year, the termination of that remaining at the end of from about 3 to 5 years will be about 12 per cent. In fact after 3 or 4 years have gone by since any new issues have been added to the group, the termination rate increases by about 10 per cent a year.

In view, therefore, of the fact that the yearly profits per $1,000 of renewal business show a tendency to increase by about the same percentage, as the average reserve per $1,000 increases, I could employ a uniform rate of renewal profit and a uniform persistency rate, the increase in one offsetting the decrease in the other.

Value per $1,000 *of Renewed Insurance*

The values per $1,000 of renewed insurance were derived by multiplying the average yearly earnings per $1,000 by the powers of the persistency rates, in which the exponent was equal to the figure shown at the head of the column. These figures, therefore, represent the values of the renewal business on the books of the company on the bases of 5, 7, 10 and 15 years' future, diminishing, earnings thereon.

Frequently we hear that renewal business is worth 5 or 6 times the yearly earnings. When such statements are made, the current rate of earnings is assumed. Where, however, regard is had for the persistency rate, a larger multiple or a longer period of "years' purchase," say, 7 to 10 years, would correspond. I have supplied values according to 5, 7, 10 and 15 "Years' Purchase" to show the change in value according to the number of future years' profits anticipated. It will be seen that there is no such thing as a standard factor of value for the insurance on the books. The figures of the column for "7 years" more nearly meet the general impression as to the value of renewal business.

It should be remembered that to get the value of the total business the factors are to be applied to the amount of business which will renew during the year, roughly the insurance in force less one-half that issued in the preceding twelve months; the increase in value on account of the current year's issues is allowed for in the factor.

The selection of the period of "purchase" would largely depend upon the class of business involved. For a company with only ordinary business on "permanent" insurance plans, the period should probably be somewhat greater than for one with a large proportion of Group Insurance, and for one with a large amount of excellent group business, with promise of continuance, the period should be greater than for one with a large proportion of short term insurance or with much group insurance with little promise of continuance. Purchases on the basis of from 7 to 10 "years' purchase" would in the great majority of cases be fair to the seller, and permit the buyer to realize reasonable profit.

Excess Interest Earnings

As the excess interest earnings on reserve funds plays so large a part in the yearly renewal profits, a purchase on the basis of earnings is predicated upon continuing to earn the rate of interest which had its part in producing the profit in the past.

It will be understood from all that has been said heretofore that these "Values of Renewed Insurance" are liquidation values, i. e., values of the business on the books which might be realized upon a sale of the business, or under a reinsurance with another company, independent of the value of the going concern and of the assets securing the capital and other stockholders' funds.

CHAPTER III

GOING CONCERN AND STOCK VALUES

The value of the going insurance concern, apart from the value of the assets securing the capital and other stockholders funds, depends upon the profits on an increasing business and the cost of producing that increase.

Cost of Producing Increase in Profit-Producing Business

I have heretofore explained the method used for determining the first year's costs, i. e., the cost of issuing and continuing the insurance during its first year. This cost, as previously explained, is the total first policy year's expense, claim and reserve charges, over and above first year's premiums collected. These costs per $1,000 of insurance issued (group and ordinary combined), are given in column 7 of the schedule. The value received for these expenditures is not properly measured by the volume of insurance placed upon the books, but by the resulting increase in the profit-producing renewal business. Hence in column 8 are given these first year's costs per $1,000 of increase in renewal business, exclusive of bulk reinsurance, if any.

In the great majority of companies these cost factors were developed from the experience in the five years, 1924 to 1928, though for some of the companies, especially for those whose statements or other data indicated clearly that a changed practice had been adopted, the figures were derived from the experience in the latter part of that period so as to reflect current practice.

By comparing the figures of those two columns, i. e., "first year's cost per $1,000 of insurance issued" with those of "cost per $1,000 increase in renewed insurance," it will be seen that many companies apparently have little regard for the value they receive for the money they spend on new business.

It will be noted that, in general, the ratios of "cost per $1,000 of increase in renewed insurance" to "cost per $1,000 insurance issued" are greatest for the smallest companies. This might suggest to some that the smallest companies are the newest companies and that they had not as yet gotten their agency departments properly organized. As previously stated, however, many of the companies in the smaller volume groups are companies which have been in business for many years, but apparently have not for some time written business on a satisfactory basis and probably are for that reason still in the small-volume class. In the instances of companies of considerable age with relatively large volumes of old business, the terminations on the old business might be so great as to offset much of the increase in new business. In those cases, the "cost per $1,000 of increases" will necessarily be high, though the volume being added each year might be of good character and with potential future profits. This applies particularly to some companies with long histories of deplorably unprogressive tactics, which have recently gone after business more aggressively. Nevertheless, the fact that they have a comparatively large volume of old business going off the books, so that a very small net increase is effected, indicates that, for the present at least, they have comparatively little value as going concerns.

It will also be noted that the companies showing the highest cost for new business, show the poorest results in increase in business. Apparently business placed at such high costs is "high pressure" business, which does not stay in force. A cost for new business of more than $15.00 per $1,000 seems to be excessive and unproductive, likely to result in heavy lapses and consequently a high price for comparatively small increase.

Yearly Rate of Increase in Renewed Insurance

From 1923 to 1928, inclusive, the percentage rates of yearly increase in renewed insurance tended to decrease quite generally for all companies. In some companies the percentage increase rates were quite uniform throughout the period, and in some few cases the rates increased, especially in the companies which, after a long period of comparative inactivity, had apparently recently reorganized their agency departments and begun to go after business more aggressively.

This general decreasing tendency in the percentage increase was not due to

the setting in of business depression, because in that period we were experiencing most prosperous conditions, nor to the approach of a life insurance saturation point, because as has been shown many times, the field is still almost unlimited, even though the largest employers of labor might already have group coverage and the large group insurance increases might not be expected to continue. For several years the companies had been increasing by such large volumes that, even though the actual increase in volume each year was greater than that of the previous year, a uniform percentage increase could not be produced, because a uniform percentage increase means that the increase must be in geometric ratio.

In a new company a rapidly decreasing rate of increase is the normal trend; starting from nothing, the rate of increase the first year is, of course, infinity; the next year, writing somewhat more than in the first year, the increase would be over 100 per cent; the third year, unless the amount of writings equal the amount remaining of the two previous years' issues, the percentage increase drops below 100 per cent, quite generally to about 50 per cent or 75 per cent, and so on. After some years, the rate of increase tends to level off to a uniform percentage. It would seem to be an attainable aim for the agency department to maintain such uniform percentage increase.

Though there will be some fluctuations in the rate of increase from year to year in the future, as in the past, there will be an average around which those fluctuations will center. The assumed, or probable, yearly increase rates presented represent those averages for the future, based upon the past experience with weight given to the indicated trend. In no case, however, was a rate of increase greater than 15 per cent assumed, though some few companies had had a greater average increase in the past few years. Fifteen per cent seemed to be the maximum which could reasonably be expected to be maintained for several years in the future; at least the maximum which it would be wise to assume in estimating values.

Yearly Net Profit Per $1,000 *of Renewed Insurance*

For each $1,000 of renewed business there will be a yearly profit of the amount shown in column 1, but as the company is increasing its renewal business at the rate shown in column 9, at a cost per $1,000 of increase of the amount shown in column 8, the yearly net profit per $1,000 of renewal business will be that shown in column 10. The value of the going insurance concern would be measured by that net yearly profit related to the increasing business. The "plowing back" of profits in a life insurance company takes the form of expenditures and charges for new business, to produce an increasing profit-producing business.

The companies showing negative yearly net profits are those which are paying too much for their new business. In a few instances the negative figures, as well as some of the very small positive figures, apply to companies which, though having capital stock, are in effect mutual companies, in which all, or nearly, all of the renewal earnings are payable to the policyholders, leaving little or no profit from the renewal business over and above commitments to policyholders to offset the cost of increasing the business. Some of those companies are, in fact, borrowing surplus from the old policyholders to increase the business.

The comparatively greater number of negative quantities for the smaller companies are not indications that they are the youngest companies, but rather that they are the companies doing business on unsound bases, producing neither satisfactory increase in volume nor profits. In many of these cases dividends to stockholders are being paid, but they come entirely from earnings on invested capital stock and other stockholders' funds. It is apparent that the stockholders of several companies would be benefited by change in

management or, at least, by change in methods.

Value of Going Insurance Concern Per $1,000 *of Renewed Insurance*

The figures given in columns 11 to 13 represent the values of the going insurance concern on the bases of 7, 10 and 15 years' future net profits at the rate shown in column 10, increasing each year by the percentage shown in column 9, related to the current amount of renewal business in force. These are designated $\sqrt{}_n^G$. Thus, if it be considered that a price representing 10 years' future increasing net profits is a fair price, the price for the going insurance concern would be found by multiplying the figure given in column $\sqrt{}_n^G$ by the amount of business renewing in the ensuing year, being the total insurance on the company's books less one-half of the business issued during the preceding twelve months.

It is to be understood that this is the value of the business as a going concern, exclusive of the value of the assets securing the capital and other stockholders' surplus funds.

In general, companies showing negative yearly profits, i. e., yearly loss on operations, have no value as going concerns. There is value, of course, in the insurance already on the books. In some of the cases the negative net yearly profits might be only temporary, owing to recent efforts to increase volume, and if that is being done on a sound basis, the new business being put on might in due time begin to produce sufficient profit to offset the cost of further increase. It was not practicable, however, to measure that possibility. That would require detailed knowledge as to the character of the company's business and as to its program for expansion.

Reviewing the columns of values of going insurance concern, it will be seen how far from the mark any standard figure would likely be for any particular company. The range of the values indicates the range in the characteristics of the companies. Each company must be judged on its own merits, or demerits, reflected by the results.

Value of Agency Plant

As previously stated, a value of the "agency plant" apart from that of the going concern, is more of academic than of practical value. On the principle, however, that its value is in its power to increase the profit-producing business, a value therefor, including the value of such other parts of the organization as are also responsible for increasing the business, would be found by subtracting the value of the renewal business from the value of the going insurance concern. In determining such value it would seem logical to use a value of the renewal insurance for a period less than that for the going concern, because the former is predicated upon a diminishing business, whereas the latter is on an increasing business.

Because of reasons previously stated, I have little patience with values of agency plants derived by considering each agent or agency as worth so many dollars on the basis of the sums professed to have been invested therein. Results are what govern. In the case of the several companies paying so much for business, and producing so little in the way of increase, that the cost of the new business continues to eat up all the profits on the renewed business, the agency plant is in effect a liability to the company. Of course, in the sale of such a company, some allowance might have to be made, in the price, for the fact that there is some form of field organization which might serve as a nucleus. That would depend upon the character of the organization and the plans of the buyer, as well as the existing agency contracts.

Value of Stock Per $1.00 *Par of Capital Stock*

The value of the going insurance concern, plus the value of the assets securing the capital stock and other stockholders' funds, is the value of the stock.

In columns 14 to 21 I have given these values of the stock per $1.00 of

par value of stock, according to the reported financial condition as of Dec. 31, 1928, and as of Dec. 31, 1929, and according to the values of the going insurance concern on the bases of 7, 10 and 15 years' future increasing net profits.

These values were, of course, derived by using as a numerator the sum of the capital and other stockholders' funds, not required for contingencies, plus the product of the factors in columns 11 to 13 multiplied by the renewal insurance in force Dec. 31, 1928, and Dec. 31, 1929, respectively, and using as a divisor the amount of capital stock outstanding at those two dates. These figures, in effect, assume that the values of the assets reported by the companies in their annual statements were true realizable market values.

Many of the companies do not show their true free surplus as unassigned surplus, but designate some of it as "assigned surplus" under various titles, such as "contingency reserve funds," "mortuary fluctuation funds," "investment fluctuation funds" or some other suggestive title. Many assign such sums arbitrarily, without particular regard for the probable suspended liabilities; in fact, some few maintain a flat, or uniform, amount as "unassigned surplus" and give a name or names to all surplus over that sum.

Undoubtedly where a company has been experiencing extremely low mortality or very favorable experience under its other policy obligations, there is some liability for suspended claims, because the experience can be expected to average over a period of years to a normal experience. Where a company reports its mortgages and real estate acquired under foreclosures, at values at least equal to the amount loaned on the original mortgages, and its other securities at current market values, it is liable to future loss under those investments. Hence some part of the so-called "assigned surplus" might be true liabilities and not all surplus. I had no way of knowing for all companies to what extent their assets were reported at realizable values, nor what possible suspended claim or hidden liability there might be. I had to assume that if a company showed no assigned surplus, its condition was such as to require none.

For the companies which showed any assigned surplus I assumed that it was recognition of some probable suspended liability. After some detailed investigation as to the probable extent of such liabilities, I assumed that the maximum true contingent liability was 2½ per cent of the total policy reserves. Any so-called "assigned surplus" in excess of that sum I considered as true surplus. For any company carrying such contingent reserves, less than 2½ per cent of the total policy reserve liability, I assumed that the sums so assigned were necessary and sufficient to cover the probable realizable liability.

Though some of the companies were actually running their insurance operations at a loss, indicated by the negative yearly net profits, there is, as previously stated, some value in the business already on the books, and presumably the capital and surplus are worth what they are represented to be in the annual statements. Many of these companies are paying dividends to stockholders, but it all comes out of the interest earnings on capital and other stockholders' funds, or, as in one or two instances, out of fortunately large investment profits. A minority holding in such a company is not measurable by past performances. At best it would be a mere guess. There is, however, a distinct majority-holding value, because the majority-holding can change the policy or the management. Therefore, for the companies which have no value as going insurance concerns, I have entered, in brackets, values representing majority holding values of the stock per $1.00 of par, by adding to the sum of the capital stock and the surplus (adjusted for contingency reserves) the values of the renewal business given in columns 3 to 6. These are in the nature of liquidating values. It will be noted that most of these values are greater than the values in the same columns for the companies having going insurance concern value, because, of course, the values of the renewed business are based on the yearly renewal profits, without reduction on account of cost of producing an increase in business. The liquidating value, or majority holding purchase price, of such a stock, however, would be on a "purchase" period less than that for a going insurance concern, in view of its diminishing nature.

Though similar "liquidating" values might be more applicable to some of the companies showing a very small "yearly net profit," than "going insurance concern" values, it seems logical to draw the line between those showing yearly net profits and those showing yearly net losses.

Ratio, Per Cent, of Ensuing Year's Earnings to Dec. 31, 1929, Values of Stock

To indicate the earning yield of the given values on the stock, I show in columns 22 to 25 the ratios, per cent, of the computed net earnings for the first year after purchase to the Dec. 31, 1929, stock values. The computed net earnings are composed of one year's interest on stockholders' funds and net earnings on the insurance operations, based on the capital stock and stockholders' funds and renewed insurance in force on Dec. 31, 1929. The rate of earning yield on the purchase price will, of course, be greater each year after purchase as the renewed insurance grows. It will be seen that these first year's earning rates for the progressive, or going concerns, center around 8 per cent, 6½ per cent and 4½ per cent on the bases of 7, 10 and 15 years' purchase, respectively. The ratios in brackets (corresponding with the values in brackets in columns 18 to 21), are the ratios of the sum of interest on stockholders' funds and profit on the renewal insurance to the Dec. 31, 1929, "liquidating" values. It will be noticed that these "liquidating" value ratios are generally higher than the stock value ratios in the same column, because they diminish from year to year, whereas the others increase from year to year as the business increases.

Applicability of Stock Values Presented

Investment in life insurance stock is a "long pull" investment. Immediate, large returns are not to be looked for, but increasing value and increasing profits in the future can be expected. Values on the bases of three or four different "years' purchase," as presented in the tabulation, permit of a selection in accord with the buyer's conception of a reasonable or logical relationship of price to future earnings.

The prices at which the stocks of some life insurance companies are sold, or quoted, are largely influenced by those who are thoroughly familiar with the conditions and prospects of their particular companies. In such cases, there are generally some persons closely connected with the company who are prepared to "pick up" such stock as is offered at prices which they know to be "bargains," thus effecting what might be called an automatic "pegging" of the price. It is therefore interesting to note that in a half dozen cases, where that condition seemed to apply, the quotations early this year were close to the figures given on the 10 years' basis, i. e., the values of the stock on a 10 year's "purchase" basis, as to the going insurance concern, plus the reported value of the capital stock and surplus funds. In four instances they were within 2 per cent. In the only instance in which the sale of complete ownership of a company had been effected, presumably after investigation and determination of conditions by the buyers, the sale was effected at a price within one per cent of the value shown in the 10-year-value column for that company.

In several other cases, however, the quotations were about equal to the values on the 7 years' basis, and some few at figures between the values on the 10 and 15 years' basis, and one at a figure about double that of the 15 years' value. This might, of course,

STOCK LIFE COMPANIES'

Co. No.	Yearly Earnings Per $1,000 Renewed Insurance (1)	Persistency Rates Renewed Insurance (2) %	Values of Insurance on Books Per $1,000 Renewed Insurance V_{1a} 5 Yrs. Basis (3)	7 Yrs. Basis (4)	10 Yrs. Basis (5)	15 Yrs. Basis (6)	1st Year's Cost per $1,000 Insurance Issued (7)	Cost per $1,000 Renewed Insurance Increase (8)	Assumed Yearly Percentage Increase Renewed Ins. (9) %	Net Yearly Profit Per $1,000 Renewed Ins. (10)	Values of Going Insurance Concern Per $1,000 Renewed Insurance: V_{2a} 7 Yrs. Basis (11)	10 Yrs. Basis (12)	15 Yrs Basis (13)
INSURANCE IN FORCE—$500,000,000 OR MORE:													
1	$2.01	91.5	$8.48	$10.95	$13.92	$17.41	$11.34	$21.99	7.5	$0.36	$3.16	$5.09	$9.40
2	2.78	89.0	11.16	14.09	17.39	20.87	10.75	21.40	9.0	0.85	7.82	12.91	24.96
3	3.55	85.5	13.29	16.31	19.37	22.15	9.90	17.15	13.5	1.23	13.00	23.21	51.77
4	2.99	90.5	12.37	15.83	19.87	24.43	8.91	16.28	12.0	1.04	10.49	18.25	38.77
5	3.11	87.0	12.00	14.90	17.98	20.96	6.46	10.62	12.0	1.84	18.56	32.29	68.59
6	5.13	90.0	21.01	26.76	33.41	40.74	22.41	50.65	6.0	2.09	17.54	27.55	48.65
7	3.52	91.0	14.70	18.90	23.88	29.61	15.43	29.18	10.5	0.46	4.43	7.51	15.21
8	4.36	91.0	18.21	23.41	29.58	36.67	9 06	21.13	12.0	1.82	18.36	31.94	67.85
INSURANCE IN FORCE—$200,000,000 TO $500,000,000													
9	2.38	84.0	8.67	10.51	12.30	13.82	13.83	106.17	2.0	0.26	1.93	2.85	4.50
10	3.42	87.0	13.19	16.38	19.77	23.05	8.66	29.16	8.0	1.09	9.73	15.79	29.60
11	3.02	87.0	11.65	14.47	17.46	20.35	6.59	27.97	5.5	1.48	12.24	19.06	33.16
12	1.41	90.0	5.79	7.38	9.22	11.24	5.58	10.12	11.0	0.30	2.93	5.02	10.32
13	5.58	90.0	22.73	28.95	36.15	44.07	8.36	17.99	12.5	3.30	33.81	59.33	128.09
14	3.37	89.5	13.67	17.33	21.51	26.02	10.98	26.11	8.0	1.28	11.42	18.54	34.75
15	4.43	86.5	16.92	20.92	25.12	29.09	21.86	77.79	5.0	0.54	4.40	6.79	11.65
16	6.21	88.5	24.68	31.04	38.09	45.36	16.46	47.36	8.5	2.18	19.75	32.34	61.55
17	2.85	87.0	11.00	13.65	16.48	19.21	11.07	35.96	6.5	0.97	8.27	13.09	23.46
18	3.66	88.5	14.55	18.29	22.45	26.73	7.32	19.48	8.5	2.00	18.12	29.67	56.46
INSURANCE IN FORCE—$100,000,000 TO $200,000,000													
19	5.58	85.0	20.70	25.27	29.88	33.95	7.83	52.82	2.0	4.52	33.60	49.49	78.17
20	4.86	89.5	19.71	24.99	31.02	37.52	23.34	47.34	7.0	1.55	13.41	21.42	38.95
21	4.17	82.5	14.72	17.63	20.35	22.71	22.26	107.53	1.5	2.56	18.75	27.40	42.71
22	2.25	91.0	9.40	12.08	15.26	18.92	6.07	11.81	10.0	1.07	10.15	17.05	34.00
23	2.46	86.5	9.40	11.62	13.95	16.15	4.35	7.99	13.0	1.42	14.77	26.16	57.39
24	4.33	90.0	17.73	22.59	28.20	34.38	7.06	13.77	15.0	2.26	25.01	45.89	107.53
25	6.21	86.5	23.72	29.33	35.21	40.77	12.42	36.47	10.0	2.56	24.29	40.80	81.34
26	3.37	89.5	13.67	17.33	21.51	26.02	12.59	28.87	12.0	−0.09	Negative Values		.....
27	5.06	89.0	20.31	25.65	31.66	37.99	14.09	38.75	8.5	1.77	16.04	26.26	49.97
28	4.30	89.0	17.26	21.80	26.90	32.28	13.84	37.55	8.0	1.30	11.60	18.83	35.30
29	2.31	89.0	9.27	11.71	14.45	17.34	3.45	8.59	7.5	1.67	14.67	23.63	43.62
30	5.47	86.0	20.89	25.48	30.42	35.00	19.56	76.88	6.5	0.47	4.01	6.34	11.37
31	4.41	88.0	17.36	21.73	26.51	31.35	14.60	47.72	6.5	1.31	11.16	17.68	31.68
32	1.72	85.5	6.44	7.90	9.39	10.73	16.33	59.96	5.5	−1.58	Negative Values		.....
INSURANCE IN FORCE—$75,000,000 TO $100,000,000													
33	3.65	85.0	13.54	16.53	19.54	22.21	19.84	64.55	7.0	−0.87	Negative Values		.....
34	4.88	90.0	20.00	25.49	31.82	38.79	12.51	27.52	12.0	1.58	15.94	27.73	58.90
35	3.77	87.0	14.54	18.06	21.79	25.41	6.25	23.26	4.5	2.72	21.81	33.42	56.53
36	5.83	86.0	21.62	26.40	31.21	35.47	15.28	68.30	4.5	2.76	22.13	33.92	57.36
37	7.14	88.5	28.35	35.69	43.79	52.15	22.79	45.65	12.0	1.66	16.75	29.13	61.88
38	1.35	85.5	5.06	6.20	7.37	8.42	10.72	49.94	3.5	−0.40	Negative Values		.....
39	7.06	87.0	27.24	33.82	40.81	47.58	19.10	52.73	5.0	4.42	35.99	55.59	95.38
40	5.19	90.0	21.25	27.08	33.80	41.21	7.48	16.52	10.0	3.54	33.58	56.42	112.47
41	5.53	85.5	20.71	25.40	30.18	34.50	16.20	84.63	6.0	0.45	3.78	5.93	10.47
42	4.25	88.0	16.73	20.94	25.55	30.21	10.60	30.17	6.0	2.44	20.48	32.16	56.79
43	6.33	86.0	23.95	29.49	35.21	40.51	18.86	73.37	4.5	3.03	24.30	37.23	62.98
44	3.34	91.5	14.09	18.19	23.13	28.93	3.24	5.90	11.0	2.69	26.32	44.98	92.55
INSURANCE IN FORCE—$50,000,000 TO $75,000,000													
45	4.38	86.5	16.73	20.69	24.83	28.76	10.84	37.54	7.0	1.75	15.14	24.18	43.98
46	2.86	90.5	11.83	15.14	19.01	23.37	7.26	16.40	10.0	1.22	11.57	19.44	38.76
47	5.41	85.5	20.26	24.85	29.52	32.75	15.79	79.02	6.0	0.67	5.62	8.83	15.59
48	3.95	85.0	14.65	17.89	21.15	24.03	14.76	193.39	1.0	2.02	14.57	21.13	32.52
49	2.89	87.0	11.15	13.84	16.71	19.48	17.28	51.77	5.5	0.04	0.33	0.52	0.90
50	3.06	90.5	12.66	16.20	20.34	25.00	12.39	27.15	8.0	0.89	7.94	12.89	24.17
51	3.48	88.5	13.83	17.39	21.34	25.42	7.31	19.93	13.0	0.89	9.26	16.39	35.97
52	7.57	86.5	28.92	35.75	42.92	49.70	19.24	55.23	8.0	3.15	28.11	45.63	85.53
53	4.54	88.0	17.87	22.37	27.29	32.27	12.41	42.43	6.5	1.78	15.17	24.02	43.04
54	2.19	85.0	8.14	9.94	11.75	13.35	7.21	20.40	6.5	0.87	7.41	11.74	21.04
55	6.72	86.5	25.67	31.74	38.10	44.12	15.54	63.02	7.0	2.31	19.99	31.92	58.05
56	2.06	89.0	8.27	10.44	12.89	15.47	6.40	14.27	12.0	0.35	3.53	6.14	13.05
57	4.69	86.5	17.92	22.15	26.59	30.79	14.46	45.40	7.0	1.51	13.07	20.86	37.94
58	6.50	87.5	27.67	34.49	41.85	49.14	5.79	15.93	15.0	4.71	52.12	95.63	224.10

VALUATION FUNCTIONS

Values of Stock per $1.00 Par Value December 31, 1928				Values of Stock per $1.00 Par Value Dec. 31, 1929				Ensuing Year's Earnings, % on Dec. 31, 1929 Values			
5 Yrs. Basis (14)	7 Yrs. Basis (15)	10 Yrs. Basis (16)	15 Yrs. Basis (17)	5 Yrs. Basis (18)	7 Yrs. Basis (19)	10 Yrs. Basis (20)	15 Yrs. Basis (21)	5 Yrs. Basis (22)	7 Yrs. Basis (23)	10 Yrs. Basis (24)	15 Yrs. Basis (25)
								%	%	%	%
.....	$7.89	$9.00	$11.47	.....	$8.14	$9.30	$11.91	.....	7.9	6.9	5.4
.....	4.32	5.53	8.39	.....	4.06	5.18	7.84	.....	8.1	6.3	4.2
.....	5.41	8.23	16.14	.....	5.55	8.49	16.71	.....	8.2	5.4	2.7
.....	9.65	13.36	23.15	.....	7.20	9.96	17.26	.....	7.6	5.5	3.2
.....	7.38	10.39	18.35	.....	7.66	10.87	19.37	.....	7.9	5.6	3.1
.....	5.61	7.26	10.73	.....	5.72	7.29	10.93	.....	8.9	7.0	4.8
.....	5.87	7.50	11.58	.....	6.21	7.98	12.40	.....	8.0	6.2	4.0
.....	6.47	9.63	17.99	.....	7.57	11.39	21.50	.....	8.4	5.6	3.0
.....	3.62	3.74	3.97	.....	2.95	3.08	3.30	.....	6.4	6.1	5.7
.....	8.58	10.70	15.55	.....	9.26	11.57	16.83	.....	7.8	6.2	4.3
.....	12.30	17.35	27.80	.....	12.75	17.97	28.78	.....	10.4	7.4	4.6
.....	3.13	3.62	4.89	.....	3.28	3.83	5.23	.....	7.2	6.2	4.5
.....	11.49	17.07	32.12	.....	6.44	9.53	17.86	.....	8.3	5.6	3.0
.....	7.55	10.22	16.30	.....	8.45	11.31	17.84	.....	9.1	6.8	4.3
.....	2.19	2.44	2.94	.....	2.23	2.49	3.01	.....	6.9	6.1	5.1
.....	6.92	9.48	15.42	.....	7.45	10.22	16.64	.....	9.0	6.6	4.0
.....	26.95	36.29	56.40	.....	11.98	15.93	24.44	.....	9.1	6.8	4.4
.....	8.90	12.54	20.97	.....	9.06	12.92	21.88	.....	9.6	6.7	4.0
.....	3.99	4.65	5.84	.....	4.03	4.70	5.89	.....	8.4	7.2	5.7
.....	36.73	46.79	68.81	.....	41.81	52.44	75.71	.....	7.8	6.2	4.3
.....	6.22	8.40	12.25	.....	3.68	4.86	6.95	.....	12.0	9.1	6.4
.....	6.19	8.32	13.57	.....	6.74	9.03	14.65	.....	8.9	6.6	4.1
.....	5.87	8.23	14.70	.....	6.54	9.19	16.43	.....	7.7	5.5	3.1
.....	4.60	6.68	12.80	.....	6.06	8.41	15.35	.....	6.6	4.8	2.6
.....	3.20	4.37	7.23	.....	3.63	5.01	8.40	.....	8.5	6.2	3.7
(10.10)	(12.24)	(14.67)	(17.30)	(9.26)	(11.28)	(13.60)	(16.10)	(21.0)	(17.3)	(14.3)	(12.1
.....	5.74	8.14	13.71	.....	6.67	9.60	16.41	.....	9.7	6.7	3.9)
.....	3.59	4.47	6.48	.....	3.45	4.43	6.63	.....	8.5	6.7	4.4
.....	3.93	5.22	8.12	.....	3.89	5.26	8.31	.....	9.2	6.8	4.3
.....	20.65	23.22	28.77	.....	21.21	23.95	29.86	.....	6.6	5.8	4.7
.....	3.85	4.88	7.09	.....	4.07	5.15	7.47	.....	8.4	6.7	4.6
(2.11)	(2.27)	(2.43)	(2.57)	(2.13)	(2.29)	(2.46)	(2.61)	(12.1)	(11.2)	(10.4)	(9.8
(18.51)	(20.90)	(23.30)	(25.43)	(19.77)	(22.34)	(24.93)	(27.22)	(18.7)	(16.5)	(14.8)	(13.6)
.....	4.39	6.00	10.24	.....	4.67	6.40	10.96	.....	8.3	6.0	3.5
.....	3.19	4.02	5.67	.....	3.23	4.06	5.74	.....	9.2	7.3	5.2
.....	3.10	3.93	5.59	1929 Statement Not Available				.....	9.2	7.3	5.2
.....	7.22	10.63	19.65	.....	7.72	11.63	21.98	.....	8.4	5.6	3.0
(2.34)	(2.49)	(2.65)	(2.79)	(2.20)	(2.41)	(2.54)	(2.66)	(10.7)	(10.1)	(9.6)	(0.2)
.....	8.45	12.08	19.43	.....	6.75	9.31	14.53	.....	10.6	7.6	4.9
.....	6.09	8.85	15.63	.....	4.57	6.60	11.56	.....	8.8	6.1	3.5
.....	4.63	5.41	7.04	.....	4.75	5.51	7.13	.....	8.3	7.2	5.5
.....	5.32	7.32	11.54	.....	5.33	7.44	11.90	.....	10.1	7.2	4.5
.....	7.19	10.04	15.69	.....	7.68	10.71	16.73	.....	11.1	8.0	5.1
.....	5.90	8.16	13.92	.....	6.19	8.64	14.89	.....	8.2	5.9	3.4
.....	8.02	10.36	15.51	.....	1929 Statement Not Available.			....	....		
.....	7.85	11.25	19.62	.....	4.50	6.14	10.18	.....	8.7	6.4	3.9
.....	2.15	2.51	3.25	.....	2.21	2.58	3.37	.....	7.7	6.6	5.1
.....	7.64	10.19	14.61	.....	7.91	10.56	15.18	.....	12.1	9.0	6.3
.....	1.82	1.85	1.90	.....	1.85	1.88	1.94	.....	6.0	5.9	5.7
.....	9.78	12.11	17.44	.....	1929 Statement Not Available						
.....	3.07	4.30	7.67	.....	3.28	4.26	6.96	.....	7.1	5.5	3.3
.....	7.33	10.76	18.56	.....	1929 Statement Not Available						
.....	3.64	4.81	7.31	.....	3.57	4.32	5.92	.....	7.8	6.5	4.7
.....	1.93	2.16	2.65	.....	2.05	2.30	2.85	.....	7.3	6.5	5.3
.....	4.35	5.46	7.87	.....	4.67	5.85	8.45	.....	7.5	6.0	4.1
.....	2.35	2.69	3.57	.....	2.53	2.92	3.95	.....	6.1	5.3	3.9
.....	3.08	3.86	5.56	.....	3.15	3.96	5.75	.....	7.5	6.0	4.1
.....	11.45	18.33	38.64	.....	8.90	14.36	30.47	.....	8.0	4.9	2.3

STOCK LIFE COMPANIES'

Co No.	Yearly Earnings Per $1,000 Renewed Insurance (1)	Persistency Rates Renewed Insurance (2) %	Values of Insurance on Books Per $1,000 Renewed Insurance V_n: 5 Yrs. Basis (3)	7 Yrs. Basis (4)	10 Yrs. Basis (5)	15 Yrs. Basis (6)	1st Year's Cost per $1,000 Insurance Issued (7)	Cost per $1,000 Renewed Insurance Increase (8)	Assumed Yearly Percentage Increase Renewed Ins. (9) %	Net Yearly Profit Per $1,000 Renewed Ins. (10)	Values of Going Insurance Concern Per $1,000 Renewed Insurance: $V_{n'}$: 7 Yrs. Basis (11)	10 Yrs. Basis (12)	15 Yrs. Basis (13)
INSURANCE IN FORCE $25,000,000 TO $50,000,000													
59	$3.61	86.0	$13.66	$16.82	$20.08	$23.10	$16.91	$54.86	6.5	$0.04	$0.34	$0.54	$0.97
60	3.81	85.0	14.15	17.28	20.43	23.21	15.81	82.40	3.0	1.34	10.27	15.36	24.92
61	4.65	87.0	17.94	22.27	26.88	31.34	15.13	59.93	8.0	−0.14	Negative Values		.....
62	3.46	86.0	13.09	16.12	19.24	22.14	19.51	122.14	2.5	0.41	3.09	4.59	7.35
63	4.44	85.5	16.63	20.39	24.23	27.70	9.91	64.25	5.5	0.91	7.52	11.72	20.37
64	3.54	82.5	12.50	14.97	17.28	19.28	13.30	157.17	1.0	1.97	14.21	20.61	31.71
65	5.73	86.5	21.89	27.06	32.49	37.62	18.30	67.36	3.0	3.71	28.43	42.53	69.00
66	5.33	85.0	19.77	24.14	28.54	32.43	17.39	115.86	5.0	−0.46	Negative Values		.....
67	2.80	87.0	10.80	13.41	16.19	18.87	9.42	18.39	9.5	1.05	9.81	16.34	32.07
68	4.11	87.5	16.02	19.97	24.23	28.45	17.78	122.93	3.0	0.42	3.22	4.81	7.81
69	2.99	90.5	12.37	15.83	19.87	24.43	8.71	20.18	9.5	1.07	10.00	16.65	32.68
70	2.41	89.0	9.67	12.22	15.06	18.09	6.02	19.62	7.0	1.04	9.00	14.37	26.13
71	3.75	90.0	15.36	19.56	24.42	29.78	22.23	35.42	12.0	−0.50	Negative Values		.....
72	5.30	87.5	20.65	25.75	31.24	36.68	20.24	61.11	7.5	0.72	6.33	10.19	18.81
73	4.79	88.5	19.04	23.94	29.38	34.99	20.88	53.55	7.5	0.77	6.77	10.89	20.11
74	5.31	85.5	19.89	24.39	28.98	33.13	12.13	51.00	5.5	2.51	20.75	32.32	56.25
75	4.46	86.0	16.87	20.77	24.81	28.54	13.92	46.73	7.0	1.19	10.30	16.44	29.90
76	5.49	88.0	21.63	27.08	33.04	39.06	17.51	69.20	8.5	−0.39	Negative Values		.....
77	5.62	88.0	22.12	27.70	33.79	39.95	11.44	49.59	5.0	3.14	25.57	39.49	67.76
78	2.45	88.0	9.64	12.07	14.73	17.42	16.97	52.57	6.0	−0.70	Negative Values		.....
79	4.99	87.5	19.45	24.24	29.42	34.54	24.74	84.91	4.0	1.59	12.56	19.09	31.82
80	4.58	88.0	18.03	22.57	27.53	32.56	11.72	32.10	8.0	2.01	17.93	29.12	54.55
81	4.67	88.5	18.56	23.34	28.64	34.11	14.69	35.02	15.0	−0.58	Negative Values		.....
82	7.06	87.5	27.53	34.32	41.65	48.90	30.49	52.90	10.0	1.78	16.89	28.37	56.56
83	3.21	86.0	12.14	14.95	17.85	20.84	17.05	126.27	4.0	−1.84	Negative Values		.....
84	4.06	90.0	16.63	21.18	26.44	32.24	11.75	23.63	11.5	1.34	13.31	22.95	47.99
85	5.01	86.5	19.14	23.66	28.41	32.90	14.96	107.79	4.0	0.70	5.53	8.40	14.02
86	5.23	86.0	19.79	24.36	29.09	33.47	14.45	61.75	10.0	−0.95	Negative Values		.....
87	6.68	88.0	26.29	32.92	40.16	47.49	24.23	53.23	8.5	2.16	19.57	32.04	60.98
88	1.91	87.0	7.37	9.15	11.04	12.87	8.80	27.93	11.0	−1.16	Negative Values		.....
89	2.59	85.0	9.62	11.75	13.89	15.79	25.80	56.94	4.5	0.03	0.24	0.37	0.62
INSURANCE IN FORCE—$15,000,000 TO $25,000,000													
90	3.87	86.0	14.64	18.03	21.52	24.76	31.60	110.91	3.5	−0.01	Negative Values		.....
91	2.18	87.5	8.50	10.59	12.85	15.09	9.32	27.17	6.0	0.93	7.81	12.26	21.65
92	3.18	88.0	12.54	15.70	19.15	22.64	20.57	58.56	6.0	−0.42	Negative Values		.....
93	2.15	88.5	8.55	10.75	13.19	15.70	26.86	73.98	15.0	−8.80			.....
94	2.91	86.0	11.01	13.55	16.19	18.62	12.39	73.04	5.0	−0.76	Negative Values		.....
95	5.79	85.5	21.68	26.59	31.80	36.12	16.44	59.30	10.5	−0.44			.....
96	4.91	87.5	19.13	23.85	28.94	33.98	15.60	35.80	7.5	2.23	19.60	31.55	58.24
97	6.82	89.0	27.40	34.60	42.70	51.24	18.38	39.07	7.0	4.09	35.39	56.51	102.78
98	3.10	87.0	11.96	14.85	17.92	20.89	14.68	48.34	2.5	1.89	14.26	21.17	33.89
99	3.17	84.5	11.64	14.16	16.66	18.82	19.22	131.14	2.5	−0.11			.....
100	1.92	86.0	7.26	8.94	10.68	12.29	22.60	75.82	4.0	−1.11	Negative Values		.....
101	7.68	84.0	27.92	33.84	39.61	44.49	23.72	Insurance Decreased		Negative			
102	5.97	84.5	21.92	26.67	31.37	35.44	19.76	163.95	3.5	0.23	1.79	2.70	4.40
103	2.05	87.0	7.91	9.82	11.85	13.82	27.95	Insurance Decreased		Negative			
104	2.01	85.5	7.53	9.23	10.97	12.54	16.51	84.44	3.5	−0.95	Negative Values		.....
105	5.45	83.0	19.43	23.36	27.09	30.10	8.70	33.06	5.0	3.80	30.94	47.80	82.00
106	2.90	86.0	10.97	13.51	16.13	18.56	14.70	57.28	4.0	0.61	4.82	7.33	12.21
107	6.77	83.0	24.14	29.02	33.65	37.39	22.11	85.07	9.0	0.89	8.19	13.52	26.13
108	7.70	87.0	29.71	36.88	44.51	51.90	19.86	57.51	10.5	1.66	15.99	27.10	54.88
INSURANCE IN FORCE—$10,000,000 TO $15,000,000													
109	3.82	80.0	12.84	15.09	17.05	18.43	22.89	Insurance Decreased		Negative	Negative Values		.....
110	5.43	85.0	20.14	24.59	29.07	33.04	17.85	71.27	6.5	0.80	6.82	10.80	19.35
111	2.43	82.5	8.58	10.27	11.86	13.24	12.70	91.73	2.0	0.60	4.46	6.57	10.38
112	4.75	89.5	19.26	24.43	30.32	36.67	11.93	32.82	7.0	2.45	21.20	33.85	61.57
INSURANCE IN FORCE LESS THAN $10,000,000													
113	2.09	89.5	8.47	10.75	13.34	16.13	25.40	66.15	8.0	−3.20	Negative Values		.....
114	5.37	86.0	20.31	25.01	29.87	34.36	22.84	121.12	8.0	−4.32			.....
115	5.83	86.0	22.05	27.16	32.43	37.31	22.14	82.78	4.0	2.52	19.90	30.26	50.46
116	3.60	85.0	13.35	16.30	19.27	21.90	16.48	96.09	8.5	−4.57	Negative Values		.....
117	2.85	83.5	10.26	12.38	14.43	16.12	28.84	179.32	2.0	0.74	5.50	8.10	12.80

VALUATION FUNCTIONS—Continued

Values of Stock per $1.00 Par Value December 31, 1928: 5 Yrs. Basis (14)	7 Yrs. Basis (15)	10 Yrs. Basis (16)	15 Yrs. Basis (17)	Values of Stock per $1.00 Par Value Dec. 31, 1929: 5 Yrs. Basis (18)	7 Yrs. Basis (19)	10 Yrs. Basis (20)	15 Yrs. Basis (21)	Ensuing Year's Earnings, % on Dec. 31, 1929 Values: 5 Yrs. Basis (22)	7 Yrs. Basis (23)	10 Yrs. Basis (24)	15 Yrs. Basis (25)
								%	%	%	%
.....	$1.62	$1.64	$1.69	.....	$1.48	$1.50	$1.55	.....	5.9	5.9	5.7
.....	4.03	4.76	6.14	.....	4.36	5.12	6.53	.....	8.4	7.1	5.6
(5.28)	(6.13)	(7.05)	(7.93)	(5.72)	(6.68)	(7.70)	(8.69)	(19.3)	(16.6)	(14.4)	(12.7)
.....	1.80	1.95	2.22	.....	1.91	2.08	2.36	.....	6.9	6.3	5.6
.....	3.07	3.52	4.46	.....	3.13	3.61	4.60	.....	6.6	5.7	4.5
.....	3.83	4.38	5.34	.....	4.09	4.66	5.65	.....	8.1	7.1	5.8
.....	3.66	4.73	6.76	.....	3.80	4.87	6.94	.....	9.7	7.6	5.3
(2.27)	(3.67)	(4.10)	(4.48)	(3.39)	(3.85)	(4.31)	(4.72)	(18.6)	(16.4)	(14.6)	(13.4)
.....	5.19	6.31	9.01	.....	5.56	6.85	9.95	.....	7.5	6.1	4.2
.....	2.73	3.03	3.62	.....	2.81	3.21	3.98	.....	7.8	6.8	5.5
.....	9.38	11.89	17.95	.....	9.54	12.33	19.07	.....	7.6	5.9	3.8
.....	2.66	2.95	3.57	.....	2.69	3.00	3.67	.....	6.3	5.7	4.6
(3.87)	(4.34)	(4.94)	(5.59)	(3.78)	(4.33)	(5.04)	(5.82)	(16.3)	(14.3)	(12.3)	(10.6)
.....	5.10	5.72	7.11	.....	5.33	5.98	7.43	.....	7.4	6.6	5.3
.....	1.90	2.06	2.41	.....	1.96	2.14	2.49	.....	5.2	4.8	4.1
.....	9.18	13.08	21.13	.....	9.97	14.23	23.06	.....	10.4	7.3	4.5
.....	5.29	7.37	11.92	.....	5.62	7.93	13.02	.....	9.6	6.8	4.1
(3.61)	(4.15)	(4.74)	(5.34)	.....	1929 Statement Not Available						
.....	5.66	7.66	11.71	.....	6.14	8.21	12.41	.....	9.7	7.2	4.8
(1.98)	(2.15)	(2.34)	(2.53)	1929 Statement Not Available							
.....	3.48	4.23	5.70	.....	3.52	4.29	5.80	.....	8.2	6.7	5.0
.....	3.57	4.56	6.82	.....	3.63	4.72	7.16	.....	8.1	6.3	4.1
(5.40)	(6.23)	(7.15)	(8.10)	(5.72)	(6.63)	(7.64)	(8.69)	(18.0)	(15.5)	(13.5)	(11.8)
.....	2.90	3.51	5.01	.....	2.98	3.64	5.27	.....	7.1	5.8	4.0
(2.08)	(2.26)	(2.45)	(2.63)	(1.96)	(2.15)	(2.34)	(2.52)	(13.7)	(12.5)	(11.5)	(10.6)
.....	2.77	3.64	5.92	.....	3.11	4.08	6.62	.....	7.4	5.7	3.5
.....	2.55	2.89	3.57	.....	2.83	3.22	3.97	.....	7.6	6.6	5.4
(5.18)	(5.64)	(6.12)	(6.56)	(5.11)	(5.64)	(6.13)	(6.68)	(14.5)	(13.2)	(12.0)	(11.1)
.....	3.58	5.04	8.43	.....	3.79	5.42	9.23	.....	9.1	6.4	3.7
(1.81)	(1.98)	(2.16)	(2.33)	(2.10)	(2.29)	(2.48)	(2.67)	(13.2)	(12.1)	(11.2)	(10.4)
.....	1.43	1.44	1.45	.....	1.45	1.45	1.47	.....	4.1	4.1	4.0
(9.49)	(10.17)	(10.86)	(11.50)	(9.57)	(10.25)	(10.96)	(11.61)	(12.5)	(11.6)	(10.9)	(10.3)
.....	2.38	2.84	3.82	.....	2.67	3.15	4.18	.....	7.3	6.2	4.6
(4.97)	(5.60)	(6.29)	(6.99)	(5.12)	(5.79)	(6.52)	(7.26)	(15.5)	(13.7)	(12.1)	(10.9)
(2.61)	(2.76)	(2.93)	(3.11)	1929 Statement Not Available							
(2.60)	(2.86)	(3.14)	(3.39)	(2.74)	(3.03)	(3.32)	(3.60)	(15.1)	(13.6)	(12.4)	(11.5)
(5.37)	(6.09)	(6.84)	(7.51)	(5.92)	(6.76)	(7.62)	(8.39)	(19.0)	(16.7)	(14.8)	(13.4)
.....	7.02	8.32	11.21	.....	3.90	4.62	6.23	.....	8.4	7.1	5.3
.....	9.08	12.01	18.43	.....	4.89	6.43	9.81	.....	8.7	6.6	4.3
.....	2.17	2.59	3.36	.....	2.25	2.66	3.42	.....	9.6	8.1	6.3
(2.50)	(2.69)	(2.89)	(3.05)	(2.50)	(2.70)	(2.91)	(3.08)	(13.9)	(12.9)	(11.9)	(11.3)
(1.36)	(1.43)	(1.51)	(1.59)	(1.47)	(1.55)	(1.63)	(1.71)	(8.2)	(7.8)	(7.4)	(7.1)
(4.25)	(4.85)	(5.43)	(5.92)	(4.35)	(4.96)	(5.55)	(6.06)	(19.7)	(17.3)	(15.5)	(14.2)
.....	1.69	1.71	1.75	1929 Statement Not Available							
(1.86)	(1.98)	(2.12)	(2.25)	(1.94)	(2.07)	(2.20)	(2.33)	(10.9)	(10.2)	(9.6)	(9.1)
(3.03)	(3.17)	(3.30)	(3.43)	(2.55)	(2.72)	(2.89)	(3.05)	(14.7)	(13.8)	(13.0)	(12.3)
.....	6.78	9.13	13.91	1929 Statement Not Available							
.....	2.01	2.43	2.95	.....	2.27	2.56	3.13	.....	6.9	6.1	5.0
.....	1.72	2.01	2.69	.....	1.97	2.29	3.05	.....	6.3	5.4	4.1
.....	5.05	6.80	11.18	.....	5.57	7.53	12.42	.....	8.5	6.3	3.8
(3.40)	(3.71)	(3.97)	(4.16)	(3.34)	(3.66)	(3.93)	(4.13)	(19.1)	(17.4)	(16.2)	(15.4)
.....	4.53	4.98	5.94	.....	4.92	5.46	6.61	.....	7.1	6.4	5.3
.....	3.82	4.07	4.53	.....	3.90	4.16	4.65	.....	4.3	4.0	3.6
.....	5.94	7.69	11.53	.....	6.73	8.74	13.15	.....	8.9	6.8	4.5
(1.33)	(1.34)	(1.35)	(1.36)	(1.62)	(1.72)	(1.84)	(1.96)	(9.6)	(9.0)	(8.4)	(7.9)
(3.17)	(3.52)	(3.89)	(4.22)	1929 Statement Not Available							
.....	2.38	2.87	3.82	.....	2.46	2.97	3.98	.....	7.9	6.5	4.8
(2.00)	(2.15)	(2.29)	(2.43)	(1.86)	(2.01)	(2.16)	(2.30)	(15.1)	(13.9)	(13.0)	(12.2)
.....	2.20	2.38	2.71	.....	2.31	2.50	2.85	.....	6.8	6.3	5.5

indicate that there were conditions, known to those interested in the buying or selling of those stocks, not revealed by the annual statements. I believe it more likely, however, that in many cases the prices were influenced by ignorance of conditions and possibilities. Prices on the basis of 7 years' or less "purchase" would generally be less than true values. The market price for the stock of a company, extensively distributed and dealt in, is likely to be largely influenced by factors other than the prospective earnings. One of the elements entering in might be hopes, based on the past policy of the company, as to future increases in capital stock with opportunity for stockholders to subscribe at prices less than the then prevailing market. Of course, there are many other factors influencing prices, similar to those affecting the price of any stock, some of which might have no merit, such as rumors. Those influences cannot be measured and need not be discussed here.

The close agreement between the values of the stock as of Dec. 31, 1929, on the 10-year basis, and the "market" values, so far as there were any, is an indication of the reliability of projections based on earning rates of the past. It will be remembered that the earning rates involved in the values for Dec. 31, 1929, were those developed from the operations in the years 1924 to 1928, inclusive.

In the case of a company showing steady growth and substantial yearly net profits, the value per share for majority control cannot be much greater than that for a minority interest. The additional value for control would be largely a matter of opinion, in which would be involved the value to place upon the power to direct, or change, plans of operation and the determination of dividend distributions, and possibly some little value in having the power to fill certain of the highest paid offices. Owing to legal requirements as to investments there is not the value in majority control that there might be in some other form of financial institution. The funds cannot be used to foster local enterprises, or those in which the majority owners might be particularly interested, regardless of their nature. Procuring majority control for exploitation of a company might, of course, have considerable value to an unscrupulous person. I am not, however, attempting to measure such a value. There would be some additional value in control to a banking concern, in having a ready outlet for some of the securities it underwrites, though that would be restricted to securities proper for life-company investment. It is likely that official sentiment would soon be aroused against making the life insurance companies mere adjuncts of the banking houses, as many were, to a great extent, prior to the Armstrong investigation a quarter century ago.

From time to time we hear the thought advanced that having a life insurance company is of great benefit to the locality because of its power to draw money. That value is apt to be exaggerated. Comparatively little of the funds can be used for local purposes. True there would be some benefit to the locality in having the company as a taxpayer, in the employment of local residents, and in the carrying of some balances in the local banks, and possibly in the loaning of some money on local real estate. If, however, it is to be a progressive and successful company, it can use but a comparatively small part of its resources for those purposes. Its investments should seek the highest return consistent with the degree of security required in a life insurance company.

Relative Amount of Capital Stock and Other Funds

In most instances, where the Dec. 31, 1929, values per $1.00 of par of capital stock are less than those for the previous December 31st, it is because of an increase in capital stock during the year, though such decreases might, of course, be due to a considerable reduction in surplus, through excessive stock or cash dividends or losses. If the dividends declared on the stock do not exceed the surplus earned in the year and no change in the amount of the capital stock is made, the value of the stock should increase from one year to the next, as will be found to be the case in the great majority of cases, by comparing the Dec. 31, 1928, values with those for Dec. 31, 1929. These increases indicate the normal yearly increasing value in the stock of those companies.

By reviewing the column showing the value of the stock per $1.00 par value, it will be seen that the maximum value on the basis of 10 years "purchase" is more than $52.00; i. e., more than 5000 per cent. Others approach $25 or $15. A very high rate of value per $1.00 par indicates generally a small amount of capital stock, with a comparatively large amount of surplus and large volume of insurance.

CHAPTER IV

MANAGEMENT OF STOCK COMPANIES

The particular feature of a capital stock life insurance company, as distinguished from a mutual life insurance company, is the additional security provided the policyholders by the capital and other stockholders' funds. Of course, that additional security is there whether it be in the form of capital stock or surplus (assigned or unassigned). Nevertheless it would generally be wise for a growing stock company to increase its capital stock, either by stock dividends or by bringing in new capital stock money, so as to maintain roughly some established ratio of capital stock to insurance in force (or to policy reserves). A small amount of capital with comparatively large sums of surplus and policy reserves has too much the appearance of the "tail wagging the dog."

The stockholders' surplus is, theoretically at least, subject to distribution at the pleasure of the directors, and that would appear as a danger to some policyholders and possibly to some state officials and surely to demagogues who, if opportunity arose, would make the best of it. Incidentally, also, continuous large percentage dividends on capital stock might be made to appear "immoral" by those who delight in causing trouble, all to the detriment of the particular company and to life insurance in general.

The practice of some of the largest stock life insurance companies of increasing their capital stock as the insurance in force (and consequently the policy reserve liability) increases is good practice, whether that capital stock increase be by stock dividends or by new money brought in for new stock issued. It is a recognition that the stockholders should be willing to "permanently" invest security commensurate with the policy reserve funds held in trust. Many of us still have quite fresh in mind the deplorable conditions which had developed in one of the largest life insurance companies and which were the prominent contributing causes calling forth the Armstrong or Hughes investigation of life insurance companies in New York back in 1905; a company which then had a surplus of eight hundred times, and policy reserves nearly 3500 times, the capital.

The policyholders have the right to expect that the stockholders will plow-in as invested capital sums commensurate with their own financial interests, especially, as one of the prominent arguments for a policyholder insuring in a stock life insurance company is the added security. Size of financial institutions does not scare us today as it did years ago. There might, however, be justifiable apprehension where there is a comparatively small financial interest controlling the disposition of much vaster trust funds.

Control of Companies

The relative merits, from a policyholder's point of view, of a stock life insurance company and of a mutual life insurance company, are mooted.

We have heard the contention on the part of some that stock life insurance companies are safer for the policyholders, because the stockholders, being more conscious of their financial interest therein, are more likely to exercise their rights of election and control, than the policyholders of a mutual life insurance company.

Despite the probability that the stockholders of a stock life insurance company take more direct interest in the management of their company than do the policyholders of a mutual life insurance company, change in the control of a stock life insurance company is more readily accomplished than in a mutual life insurance company. What is everybody's business seems to be nobody's business, but that of those who make it their business—a condition similar to that in our public affairs Consequently, except in the case of gross mismanagement, calling for intervention by the State, control of a mutual life insurance company is well nigh self-perpetuating. In view of the very excellent management for the past twenty-five years of most of the mutual life insurance companies, the mutual policyholders can be happy that that is the situation.

Change in control of a stock company might be to inefficient, and even dishonest, management. Two cases of that stand out prominently: One, now several years back, and the other within the past two years, in which the new "owners" promptly appropriated to themselves large sums, forcing the reinsurance or the liquidation of the companies. Of course, the possibilities of such situations are not peculiar to stock life insurance companies. Minority holdings in any corporation are subject to change to inefficient or even dishonest management.

In most of the States, merger of one life insurance company with another, or the reinsurance of one by another, is subject to review of and action by the Insurance Commissioner, either under specific provisions of the law or under authority assumed by the official. Transfer of stock ownership, however, does not seem to be subject to such review or approval. Consequently, control of a stock life insurance company might pass without the State having a voice in the matter.

Despite my reluctance to see any extension of the busy-body activities of the Government, I would say that, in view of the possibility of disaster to the policyholders, as well as to the minority stockholders, it would seem to be desirable to have any contemplated change of ownership subject to some official or confidential independent review. It might be practicable to require that, if some appreciable part, say 10 per cent or 20 per cent, of the capital stock of any company is to be transferred, the fact should be reported to the State insurance department or to some other dependable department before the transaction could be consummated. It might be that such review could be exercised by some quasi-public body, such as, say, the National Convention of Insurance Commissioners, rather than by the particular State insurance official, to possibly avoid the effects of political interests or that of local pride, which might enter into the matter when left entirely to the local State insurance official.

Legal Discrimination Against Stock Companies

In general, the laws and the supervision established by law in most of the States do not make any marked distinction between a stock life insurance company and a mutual life insurance company. They consider them as of the same nature. A distinction should be made. The State's particular responsibility is to see that the public is protected against loss and misrepresentation.

In accord with this theory the State would, as to both kinds of life insurance companies, see that the contracts issued clearly state the benefits promised and the conditions to be met; that the methods of soliciting business are free of misrepresentation; that the companies are faithfully discharging the obligations under the contracts; and

that the companies' financial conditions and methods of operation assure the full discharge of all the obligations they assume.

The distinction between the supervision of a mutual life insurance company and of a stock life insurance company comes in the faithful performance of the terms of the contracts. A participation clause in a policy is in effect a promise on the part of the company that it will be operated efficiently and economically. The State therefore has responsibility in seeing that a company issuing participating policies so operates. In the case of a stock company with only non-participating business, the degree of efficiency and economy of operation is the concern of the stockholders. The State has no responsibility therein, so long as the ability of the company to discharge its obligations is not impaired.

This principle is recognized to a certain extent in the laws of New York, which under Section 97, exempt stock companies issuing only non-participating business from complying with the limitation of expense provisions except those as to first year's expense. Presumably the reason for requiring stock companies issuing only non-participating business to comply with the first year's expense limitations is to allow them no advantage in competition for business over the mutual companies or companies issuing participating business. Competition for business resolves itself into competition for agents, and agents in life insurance, like those in any other line of business, are attracted by the highest compensation. There is a certain note of anomaly in such a law, in view of the more generally accepted principle, or shall we call it fetish, "competition is the life of trade," reflected in our anti-trust and anti-compact laws. It is generally conceded however, that limitation of first year's expense applied to both non-participating and participating companies as in New York has been of great benefit to the business, because of its having curtailed, if not eliminated, wild-cat scramble for business by companies doing business in New York.

Several States still discriminate against stock companies, or non-participating companies, in favor of participating companies, by requiring, in effect, non-participating companies to charge premiums greater than required, which it must be conceded is rather an illogical position for a State to take.

In view of the proved soundness and applicability of the American Men Ultimate Table, a table made up from the actual experience of the life insurance companies under modern conditions, no State can today justify its requiring reserves to be held on the American Experience Table of Mortality, a table made up 70 years ago, involving largely the opinion of the very able actuary who made up the table as to what would then be safe provision for mortality.

It should be realized that a mutual life insurance company has an initial advantage over a non-participating company, by virtue of its promise to distribute all its surplus to policyholders. It does not need advantages secured it by unfair laws, such as requiring stock companies to charge premiums much in excess of what is needed. The community suffers when a creature of the State is not permitted to fully discharge the functions for which created. Life insurance companies should be permitted to do business on the American Men Ultimate Table of Mortality in all States, which, as previously stated, is absolutely safe for operation, especially when there is the added security of capital stock and other stockholders' funds.

Another illogical restriction against stock life insurance companies, as reflected by the laws of New York, is that of prohibiting the issuance of both non-participating and participating business. We are all familiar with the genesis of that law. It is one of those resulting from the Armstrong investigation of life insurance companies back in 1905-1906. That there were abuses in the life insurance business at that time was all too plainly brought forth in that investigation. Some of the remedial legislation perforce went to ex-

tremes. The particular conditions which led up to some of those abuses were lost sight of in the cumulative effect of the testimony produced. Such I think was the case resulting in the prohibition of a company from doing both a non-participating and participating business. The particular abuse, which was almost lost sight of, because of not being as spectacular in newspaper headings as that of "yellow dog funds," princely salaries, nepotism, disadvantageous underwriting syndicates, etc. (all really of comparatively minor importance), was the spending of policyholders' deferred dividend accumulations in unduly high compensation to agents, in the wild scramble, between the companies, to be recognized as the largest company. No true life insurance man would like to see any safeguards let down which might eventually result in similar abuses. "Eternal vigilance is the price of liberty" might be paraphrased: "Eternal vigilance is the price of clean business." But those abuses were not due to the stock companies doing both a participating and non-participating business.

There would be an incongruity in a mutual life company doing a non-participating business, which would not apply to a stock company. A stock life insurance company should be permitted to do both a non-participating and a participating business, provided it specifies in its participating policies and in its charter or articles of incorporation, or by recorded resolution, the compensation, if any, which is to go to the stockholders on account of such participating business. It would then be merely a matter of proper accounting, which could be easily devised and as readily supervised by the State.

A stock company with its additional security of capital and other stockholders' funds can provide excellent service under participating policies. With the added security of the capital stock and other stockholders' funds it would not need to withhold from the participating policyholders any contingency reserves, but could distribute all the earnings under those participating policies to the policyholders as earned. Even if the stockholders were to be allowed some remuneration therefrom, for supplying the service and the added security, the net cost to such participating policyholders could safely be made lower than that of many of the well managed mutual life insurance companies today. A law prohibiting, in effect, that class of business by a stock life insurance company is against the public interest.

Life Company Organization

The two most important jobs in a life insurance company are those of the agency director and of the actuary, including in the duties of the actuary that of underwriting, or "classification of risks." Courtesy requires me to mention the agency man first. Alphabetical order and professional pride would prompt me to place the actuary first.

Next in line of importance, I would place together the board of directors and the president, even though the latter is the ranking officer and has responsibility as to the whole company.

As has been seen by the figures presented with this article, the results produced by some of the companies have been almost pathetic, if not ludicrous. There seems little excuse, or warrant, for any stock life insurance company continuing in business if it cannot increase its volume and produce earnings. Almost without exception where that has not been accomplished, you find a company lacking either, or both, a good agency man and a good actuary, or those positions subordinated by those in control.

Wise management would dictate the employment of a well qualified agency man and well qualified actuarial service. Money invested therein is soon returned in results, whereas economizing therein is likely to make a waste of the money otherwise expended. Without a well qualified agency man, the business does not grow satisfactorily, either in volume or character.

Without qualified actuarial service, the company will not have the necessary technical guidance as to forms of coverage, adequate and competitive rates, proper classification of risks, correct analyses of conditions and reliable programs and prognostications.

An agency man must be a good judge of men; he must have initiative and imagination, must have understanding of good underwriting or classification of risks, but, above all, the quality of inspiring confidence and enthusiasm among the men he selects for agency work.

The actuary, besides having the technical qualifications and initiative and imagination, should have courage. Not only that of saying "No" but that of saying "Yes" to new propositions. His attitude should be that attributed to the corporation lawyer, of finding a way of doing the things proposed on safe and sound bases.

It is probably more difficult to select a good agency man than a good actuary, because there are no organizations or agencies whose stamp would mark the qualifications of the agency man, such as the Actuarial Society of America or the American Institute of Actuaries for the actuary. Fellowship in either of those two societies would be evidence that the candidate for the actuarial position had the required technical knowledge, and indicate at least the probability that he had the necessary practical knowledge and soundness of judgment to discharge the duties of the actuary. The presence of those practical qualities would be revealed by interview. Experience even in a subordinate actuarial position in a company trains the young actuary for more responsible work in that or another company. Experience in the agency departments of other companies, or success in the agency field, does not demonstrate a man's ability to act as the chief executive of the agency department.

Even for a company just beginning, it would be a good investment, and one which will assure earlier profits, to pay the necessary salaries to attract a good agency man and good actuarial service. There might be some excuse for not starting off with a highly qualified agency man, because of the difficulty of selection, especially as a new company requires a particularly qualified agency man. To employ such a highly qualified man would require considerable outlay, in the way of salary, before any appreciable volume of business is placed upon the books of the company.

There is little excuse, however, for not having qualified actuarial service. Even subjecting myself to the charge of "advertising," I would say that many a company would find it an economy to engage the services of qualified consulting actuaries. A newly organized or young company should get better service from an experienced consulting actuarial firm than from many a highly qualified actuary whose only experience has been with a company which had operated successfully for many years before his association; because the problems of a newly organized, or young company, are entirely different from those of a company which had long since passed through the throes of starting. An experienced consulting actuary has seen many companies through those stages. The qualified consulting actuary advises and guides not only along lines more strictly called actuarial, but along those of agency matters, underwriting and general management. Even for a company with its own actuary, a consulting actuarial connection should be of distinct value. There is a natural tendency on the part of a young actuary to discourage the employment of a consulting actuarial firm, because he fears that it might appear to his superiors that he is thereby admitting inexperience or lack of confidence in himself. He is apt to lose sight of the fact that as highly qualified as he might be, it is of vast benefit to himself as well as to his company to have the opportunity of discussing the many problems which arise with an actuary of greater experience and independent of any particular company. There need be no reflection upon his qualifications to seek such counsel.

There will probably be some exception taken to my listing the importance of the agency director and of the actu-

ary before that of the president, and possibly for my bracketing the importance of the president with that of the board of directors.

The responsibilities and duties of the president are largely those of the board of directors, delegated to the president for execution. The board of directors represents the stockholders, or owners, of the company. The character of the men of the board of directors largely determines the character of the company. With men of integrity and of broad and apt minds, trained in business and keen to grasp the significance of the reports made to them by the responsible officers of the company, success of the company is furthered. A board of directors having the confidence of the community, which can be communicated to outlying fields as the company expands, is essential. Selection of the chief officers lies with the board of directors, acting probably through its executive committee, upon the recommendation of the president. That selection largely determines the degree of future success of the company.

I concede that in a large company the directing head must be a man of great ability and capacity to successfully cope with the multitudinous duties and problems with which he is confronted. In smaller companies, however, with a good agency man and good actuarial service, even if the president has not such high qualifications, the company can be successful.

My observations also prompt me to say that where the president is an experienced life insurance man, with a knowledge of agency matters and of the functions, at least, of the actuary, that company has the best opportunity, or promise of success. We, of course, have the striking example of a very successful life insurance company which is officered almost entirely by men with actuarial standing, and of several others in which the active managements are in the hands of men with actuarial training. Actuarial attainments imply thorough knowledge of agency matters.

On the other hand, we have many instances of successful companies in which the presidents have been selected, or drafted, from other walks of life. The required qualifications of the president of a life insurance company are similar to those of the executive of any other kind of organization—ability to judge men and to grasp the significance of technical problems or reports, and to have a broad understanding and vision.

One of the important responsibilities of the executive officer of a life company, especially that of a young life insurance company, is that of acting as arbitrator between the agency and the underwriting departments. In that capacity the presidents of the smaller companies, as a rule, are inclined to favor the agency viewpoint rather than that of the underwriting, because the desirability of volume increase and the danger of discouraging the agency force loom so large. The underwriting in a young company is a particular problem because it has not the benefit of long standing, well known, underwriting rules; its agency force is not yet cohesive and it has a larger proportion of undesirable risks submitted than older companies.

Speaking from observation I would say that, on an average, the presidents, other than possibly those of the largest companies, devote 60 per cent of their time to agency matters, 30 per cent to investment matters, and the other 10 per cent to miscellaneous administrative matters. The increase and cost of business in many companies are little credit to the agency activities of the presidents of those companies.

Though the investment problems should be among the simplest of a life company's operations, in view of the large number of highly qualified and reliable agencies for advising as to investments, the investment activities of several companies seem to have been the weakest of all. As some evidence of that is the lack of foresight shown in connection with farm loans. Of course, hindsight is better than foresight. Nevertheless, those responsible for the investments in the past cannot entirely excuse themselves on the grounds that circumstances developed beyond their control, because for many years past it was clear that there was a distinct farm problem. Returns to the farmers for their labor and investments were inadequate. Farms were being priced at ever increasing values, evidencing an optimistic discounting of future increment in values; they were renting to yield finally only 3 per cent per year on those values, and still many life insurance companies continued placing loans there. So basic and absolutely necessary an industry as farming would have to go on and the land would always be there to produce the necessities. No better security! Has the lesson been learned as to other classes of investments? For instance, are the necessary utilities of today, those of tomorrow? Witness the trolley or traction line. Life companies, with their long term insurance contracts, require the exercise of considerable foresight in their investment policies, and should employ the available agencies.

While on the subject of investments, I am constrained to refer also to the almost irresistible urge on the part of young companies to "sink" large portions of their assets in monumental home office buildings. The excuse for so doing is generally that it will be an excellent advertising feature. It is more apt to be a white elephant. As a matter of fact the usual actuating motive for the early building of a monumental home office is vanity. That there might be some distinct advertising value in an office building of its own, even for a young company, is likely, but before proceeding to build such a structure, the relative cost and benefit should be most carefully measured, and then in most cases the proposition rejected.

It might seem strange to some that I appear so far to have ignored the place of the medical director. The most excellent work in the past of the medical directors of the large companies, especially, is responsible for that. Their work has largely minimized the need of highly trained medical directors for the smaller companies. Underwriting, or the classification of risks, has been systematized to such an extent that much of that work can be done with little aid from a medical man. As a matter of fact better results are obtained with a trained lay underwriter, under the supervision of the actuary experienced in that line, than by the employment of a medical man who has had little or no training in a life insurance company, and the latter is the type of medical man which a young company would be apt to employ. The viewpoint of a medical man who has not had considerable experience in a life insurance company under the supervision of experienced medical directors, is too apt to be based upon limited personal experience rather than upon broad knowledge derived from studying life insurance experience.

The function of the medical man in the smaller companies today is more that of advising and interpreting the significance of medical terms, as well as that of advising on the selection of medical examiners, than that of assuming complete responsibility for the underwriting. Except possibly from the viewpoint of the medical man, this is a welcome situation for life insurance, in view of the recognition that the purpose of the classification, or selection, of risks is not that of rejecting all but the perfectly healthy lives but that of admitting as many as possible on a proper basis. There are many considerations, besides that of the physical condition, in the classification of risks.

That life insurance would suffer were the medical man to be dispensed with I think is unquestionable. That his services can be dispensed with to a certain extent under certain circumstances is indicated by the experience under group insurance and under non-medical business, but even there, the underwriting has been aided by the contributions of the medical man.

In singling out the aforementioned functions for particular reference I intend no slight to the many other necessary functions and phases in the operations of a life insurance company, such

as those of the secretarial, accounting, auditing, general office management, etc. They all require competent execution for the company to run smoothly and efficiently. Material for conducting those functions is more readily obtainable than the more technical ones previously referred to, and incidentally several, if not all, of those functions might properly come under the general supervision of the actuary. As the secretarial functions are largely in the way of contact with the policyholders, they require the cooperation of the agency department.

Conclusion

The foregoing analysis and schedule are the results of much study and calculation. The values and ratios derived seem worthy of confidence, though they would no doubt be somewhat modified if intensive investigations were carried through for particular cases. They disclose that the quality of life company management is not uniformly good. It varies from super-excellence in a few cases, through excellence and mediocrity, to poor management grading into mismanagement, in a startlingly large proportion of the cases under review. They are the results of an actuary's efforts to "substitute facts for appearances and demonstrations for impressions" upon a subject which has been greatly in need of scientific investigation.

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